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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,296	02/09/2004	Naoki Sadayori	Q79398	8748

23373 7590 12/13/2006  
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EXAMINER

SERGEANT, RABON A

ART UNIT PAPER NUMBER

1711

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/773,296

Applicant(s)

SADAYORI ET AL.

Examiner

Rabon Sergeant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 30, 2006 has been entered.

2. Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicants have failed to provide support for claiming an unbounded range of index of refraction values of at least 1.738. The examiner has reviewed the specification, and applicants have only provided support for index of refraction values of 1.738, 1.744, and 1.757 as presented within Examples 1-3. Furthermore, these exemplified values are all derived from very specific compositions derived from the combined use of TDI, MDI, NDI, and 1-naphthyl isocyanate. As such, these exemplified values are derived from compositions that are far more narrow in scope than the compositions encompassed by the claims. Given these three limited examples and values, the position is taken that there is insufficient basis to extrapolate the values to provide support for the claimed range. Furthermore, given applicants' claimed Markush group within claim 1, it isn't clear that applicants' claims encompass the exemplified compositions based on three distinct diisocyanates. In view of these observations, the position is ultimately taken that

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applicants have failed to provide adequate support for the claimed range of index values as they pertain to the entire scope of the compositions of the claims.

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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4. Claims 1-5 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of copending Application No.

11/098,420. Although the conflicting claims are not identical, they are not patentably distinct from each other because each set of claims is drawn to a sheet (film) comprising polycarbodiimide, wherein the polycarbodiimide of the copending application encompasses applicants' instantly claimed polycarbodiimide composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 1-5 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No.

11/248,229. Although the conflicting claims are not identical, they are not patentably distinct from each other because each set of claims encompasses a polycarbodiimide, wherein the polycarbodiimide of the copending application encompasses applicants' instantly claimed polycarbodiimide composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

6. Claims 1-5 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No.

11/253,745. Although the conflicting claims are not identical, they are not patentably distinct from each other because each set of claims encompasses a polycarbodiimide, wherein the polycarbodiimide of the copending application encompasses applicants' instantly claimed polycarbodiimide composition.

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This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 1-5 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No.

11/273,082. Although the conflicting claims are not identical, they are not patentably distinct from each other because each set of claims is drawn to a sheet (film) comprising polycarbodiimide, wherein the polycarbodiimide of the copending application encompasses applicants' instantly claimed polycarbodiimide composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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9. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. ('214) in view of Medem et al. ('698).

Saito et al. disclose polycarbodiimide copolymers and their production as sheets, which meet applicants' claimed film structure, wherein the use of blends of diisocyanates is disclosed and naphthalene diisocyanate is disclosed as being an especially preferred reactant. Furthermore, diisocyanates yielding structures corresponding to those encompassed by applicants' formula (2) are disclosed. See column 1, lines 54+; column 2, especially line 35; column 3; and column 4, lines 1-15. Patentees further disclose solutions of the polycarbodiimides in aprotic solvents and termination of the polycarbodiimides with monoisocyanates at column 4, lines 20+. Lastly, patentees disclose reaction temperatures within the examples that meet those claimed.

10. With respect to applicants' amendment to claim 1 specifying an index of refraction of at least 1.738, the position is taken that it is logical to conclude that the polycarbodiimide resin of Saito et al. inherently possesses applicants' claimed index of refraction, in view of the similar structural and chemical features of the polycarbodiimide of applicants and Saito et al. This position is bolstered by the teachings of Medem et al. at column 1, lines 42-45, wherein it is disclosed that polycarbodiimides are known to have a refractive index of more than 1.59. In view of the teaching within Medem et al., one of ordinary skill in the art would have additionally and reasonably expected the polycarbodiimide resins of Saito et al. to have high refractive indices. Applicants have provided no evidence that the claimed refractive index values are unexpected. It is noted that the issue of refractive index is immaterial to claim 5, since claim 5 has not been amended to include such a feature.

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11. Though Saito et al. fail to disclose applicants' claimed ratio relationship between formula (1) and formula (2) of claim 1 or the 5% minimum of claim 5, the position is taken that the production of polycarbodiimide copolymers that satisfy the claims would have been obvious to one of ordinary skill in the art, given the broad range of ratios between formula (1) and formula (2) encompassed by the claims and in view of the fact that patentees specifically recite copolymers and the preferred use of naphthalene diisocyanate. Furthermore, the position is taken that the endpoint of the recited ratio (claim 1) or percent content (claim 5) is close enough to zero (denoting a naphthalene diisocyanate-based homopolymer) or 100%, respectively, that one of ordinary skill in the art would have expected such copolymers to have the same properties as the disclosed naphthalene diisocyanate-derived polycarbodiimide homopolymer. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Applicants have provided no showings of unexpected results relative to the polycarbodiimides of Saito et al.

12. Applicants' remarks have been considered; however, the position is maintained that Saito et al. disclose copolymers of polycarbodiimides, mixtures of polyisocyanates, and the preferred use of naphthalene diisocyanate. These specific teachings coupled with the remaining teachings of the reference are adequate to establish a *prima facie* case of obviousness that applicants have not rebutted by means such as a showing of unexpected results commensurate in scope with the claims.


13. It is noted that the naphthalene diisocyanate percent content of claim 5 is not fully equivalent to the ratio of m to n within claim 1. Given that n designates the non-naphthalene diisocyanate residue of claim 1, the ratio of claim 1 specifies a percent content for naphthalene diisocyanate residue of 1% to 95%.



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Any inquiry concerning this communication should be directed to R. Sergeant at telephone number (571) 272-1079.

R. Sergeant  
December 11, 2006

  
**RABON SERGENT**  
**PRIMARY EXAMINER**